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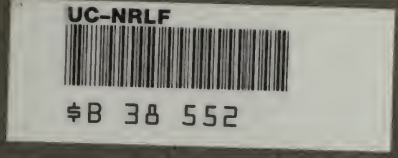

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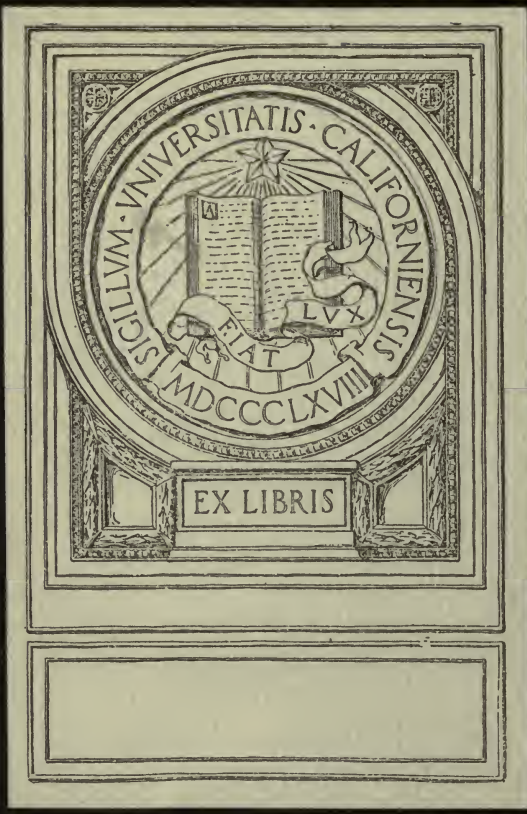
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Municipal Ownership

of

Street Railways

With an Analysis of the Accounts of the City of Glasgow Tramways

By JAMES MARWICK, C. A.,
of Marwick, Mitchell & Co.
Chartered Accountants.

Reprinted from The Wall Street Journal of June 3, 1905

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MUNICIPAL OWNERSHIP OF STREET RAILWAYS.

With an Analysis of the Accounts of the City of Glasgow Tramways.

BY JAMES MARWICK, C. A. OF MARWICK, MITCHELL & CO.

[Chartered Accountants, 79 Wall Street, New York, Chicago, Toledo and Minneapolis.]

Whether or not municipal ownership of public utilities, and more particularly of street railways, has proved to be to the best interests of the communities in which they are operated, is a question to which students of existing conditions might well prefer to withhold their answer. Economists may agree that theoretically all public utilities should be controlled by municipalities, but they would not be likely to commit themselves to a definite statement that the public would benefit by a transfer of street railway systems from well managed private corporations to political parties temporarily in control of city governments whatever their politics might be. Eliminate the political element and establish a department of street railways under a thoroughly competent and permanent management, let its policy be progressive, let it have command of adequate capital to expend at the right time on repairs and extensions and let no interference be permitted under any circumstances in the hiring or disciplining of employees. Then and then only does it appear likely that municipal ownership can be to the advantage of the public.

These conditions exist in a large measure in the city of Glasgow, which is generally regarded as having de-

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monstrated unequivocally that its municipal ownership has been successful. From the American progressive point of view, however, it has yet to make tremendous progress before it can be admitted to be a success in the full sense of the word. It is a success in so far as it is making money and affording better service than that afforded by the private corporation which previously operated its system. But the private corporation was practically restrained from making any large expenditures to improve the system as it was not accorded such a franchise as would assure its having an opportunity of reaping the benefit of improvements made.

It was, therefore, left to the municipal government of Glasgow to replace the old horse cars with electric traction. That such a change should have resulted in a great increase in travel was only natural. Consequently, the increase should not be attributed to the superiority of municipal management. Similar increases in patronage were experienced in the cities of America on the installation of cable and electric traction by private corporations.

The lesson which should really be learned from experience does not appear to be generally recognized. It is that if the citizens of a municipality are to enjoy adequate transportation facilities and service, they must either (a) grant to a private corporation long term or perpetual franchises, with the passenger fare, carrying transfer privileges fixed at a reasonable rate and the taxes restricted to some percentage which will allow fair compensation to the municipality for the concessions granted or (b) have their municipal government acquire and operate the system. If one of these conditions is not accepted inadequate service and constant friction is assured. Short term franchises and low fares will not attract the capital necessary to insure a well equipped and operated system. The capitalist who invests his money in the street railroad plant has just as much right to require that his investment be absolutely secured as the citizen has to expect him to afford reasonable transportation service.

A wave of antagonism to granting to private corporations long term or perpetual franchises, even with

reasonable purchase clauses included, appears to have swept over the whole country. Municipal ownership is the demand of the reformers and their numbers are ever increasing. Therefore, it appears that a thorough test of the efficiency of municipal operation cannot too soon be made in one of the larger cities. No more thorough test could be made than in Chicago. Here the street transportation conditions have for years been most unsatisfactory and inadequate and the franchises are in a legal tangle involving complications which the law courts alone can unravel. Consequently, the time would now appear ripe for the test of municipal ownership but not confiscation. The value of the properties and franchises which the corporations may be required to transfer should be adjudicated with due regard to what is fair alike to the capitalists and to the citizens. No exaggerated values should be put forward by either party in apparaising the properties whether tangible or intangible.

Should the city of Chicago acquire its street railways, it will have very different conditions with which to contend from those which exist in Glasgow even at the present time. There the total miles of single track represents only 1.35 miles per 10,000 of population as compared with 5.85 miles in Chicago and 7.3 miles in Pittsburgh. There the population only averages 189 trips per capita annually as compared with 232 trips in Chicago and 263 trips in Pittsburgh. There the average number of passengers per mile of single track averages 1,400,000 as compared with less than 400,000 in Chicago and 360,000 in Pittsburgh.

The following figures taken from the last report of the Census Bureau show the conditions in six of the largest cities of America, compared with those of Glasgow for the year ending May 31, 1904.

				Passengers Per Mile			Track Miles Per 10,000
City	Population.	Miles of Track.	Car Mileage.	Inhabitant.	of Track.	Car Mile.	Population.
Glasgow....	1,000,000	135.00	16,291,082	189	1,400,000	11.6	1.35
Chicago.....	1,769,951	1,036.24	102,366,407	232	395,935	4.0	5.85
Pittsburgh..	640,380	469.47	84,311,111	263	359,197	4.9	7.33
New York..	3,548,996	1,299.10	180,499,586	206	726,416	5.2	3.66
Philadelphia	1,293,697	517.53	61,175,495	256	640,165	5.4	4.00
Boston.....	927,994	451.68	47,524,724	246	505,179	4.8	4.87
Kansas City.	237,042	181.24	15,979,864	241	815,817	3.6	7.65

The contrast in the mileage figures contained in this statement is remarkable as it indicates the existence of a condition in Glasgow with its million of population which is in direct contradiction to the policy of municipalities in America as also to one of the fundamental principles of rapid transit. Did such a condition exist in an American city it would not be tolerated, but such an outcry would be raised against the company in control of the franchise as would force it to change its policy.

In making a success from a money point of view, the municipality of Glasgow has apparently almost entirely overlooked the much broader benefits which accrue to a city from the distribution of its residents over a wide area, from the substitution of homes in the suburbs for the overcrowded tenements of the city. Contrast the lot of the child of the city with that of the country or suburb —polluted air to breath, asphalt or stone streets for a playground as against the fresh air from the country, the grass and the flowers which bring home even to the parents themselves a realization that there is more in life than asphalt and stone, smoke and business. Does the piling up of a sinking fund on the top of ample depreciation and the payment of liberal bonuses to the city treasury in addition to interest on its investment compensate for the loss of that which is the every day privilege of the American citizen? Surely the moral and material welfare of the people must outweigh more than commercialism. Credit is, however, due to Glasgow for it is in advance of any other city in the United Kingdom and it proposes to build 41 miles of additional track. Thereafter its total of 198 miles of single track will exceed that of any other system in Europe, excepting Berlin, which outranks all other cities on the continent of Europe, having 1.72 miles of track per 10,000 of population.

The official statistics of the census bureau demonstrate that following the extensions of rapid transit systems in America there has been a tremendous increase in the number of residents in suburban districts and a great expansion of these districts coincident with a contraction in the density of the city districts, excepting those occupied by the poorest classes, who cannot afford to pay even

a minimum rate of fare. It hardly seems possible that a similar extension of the tramway system of Glasgow would not have a similar effect in opening up attractive suburban districts in this vicinity. Thus the mass of well-to-do- citizens would be encouraged to seek homes therein in preference to living in their terraces and tenements in the center of the city—and the sooner that these are abandoned the better for the whole community. Were more of the progressiveness of the American introduced into the system, city dwellers would soon be accorded every facility to reach the suburbs in quick time and at reasonable expense.

An impartial investigation shows conclusively that it is not municipal managment but the contraction of the population within narrow limits and the restricted street mileage, only 65 miles for a population of 1,000,000, that permits of such profits as those shown in the statement of accounts of the city of Glasgow for the year 1904. A franchise such as that enjoyed by the municipal managers could be sold for a high price in America and strong competition would be developed for a further franchise that would extend over the districts not already occupied. Thus the total mileage could be brought more into accord with the American standard of a city of its magnitude. Such facts seem to demonstrate that municipal ownership has not yet been made a success in the broadest sense of the word even in Glasgow. This, however, does not alter the fact that a test of municipal control is not undesirable in America.

The great obstacle to the wider distribution of the population of Glasgow is the system of graduated fares now in operation. A somewhat similar system has already been proved to be undesirable in Germany and has been abandoned. In America the system has been everywhere rejected. The system is as follows: "Each route is divided into half-mile stages, the fare for this stage being a half penny (1c.). The fare for any four half-penny stages is one penny (2c.) and for any six, three half pennies (3c.), any eight, two-pence (4c.) and so up to fourpence (8c.). In 1904, the total number of fare passengers carried was 188,962,610 as compared with 410,284,094

in Chicago and 168,632,339 in Pittsburg, but the average fare in Glasgow was slightly less than two cents compared with the 5-cent fares of Chicago and Pittsburg. This implies that the average distance travelled in Glasgow was somewhere between a half a mile and two miles. What the comparative distances were in Chicago and Pittsburg, there is no means of ascertaining, as a passenger can travel to the extreme limits of their systems for one fare of five cent. For this reason statistics are frequently submitted to show that transportation in this country is cheaper than in Glasgow. Though it might be cheaper if everyone travelled long distances, in practical operation it is not so, for over 30% of the passengers pay the minimum fare of 1 cent and 61% the 2-cent fare, leaving less than 9% to pay 3 cents or over, their fares representing 1.67% of the total passenger revenue.

Taking into account the population of Glasgow and the distance of the commercial and manufacturing centers from the suburbs, these statistics are sufficient evidence that the system of graduated fares acts as a premium to deter people from living in the suburbs. The pernicious effects can only be obviated by following the example of Germany and abandoning the system. London has already set a partial example to the rest of the United Kingdom by adopting the uniform fare in its electric subway, known as the "tuppenny tube."

The management of the Glasgow corporation tramways is to be congratulated on the comprehensive character of the report, statements of accounts and statistics of operation which it issues. While some few of the street railway corporations of America do issue annual reports which afford considerable information to their stockholders, none of them are so complete as that of Glasgow. The great majority of American companies, however, do not publish any reports, or only issue statements of the most meager character. A striking feature of the reports published by Glasgow is the account in which the details of the capital expenditures are set forth. They are so clearly stated that the cost of the plant or equipment in each department of the system can readily be ascertained, as also the amount of depreciation written off

from year to year. This very publicity is a safeguard against the financial schemes which have been so detrimental to the stockholders of metropolitan companies of this country, as well as to the public who have in consequence had to submit to inferior service. In these accounts there are no undistributed construction expenditures. Each item of expense is classified under its appropriate head. Further, the accounts are regularly audited by chartered accountants of high standing, thoroughly trained in their profession and characteristically independent in the discharge of their duties, who would not tolerate any irregularities or permit of any equivocation. That the accounts are not submitted in the same form as that generally approved in America is of relatively little importance. The differences are merely matters of detail.

The capital account, which records the expenditures by Glasgow on construction and equipment, shows a charge of $10,226,450, of which $9,916,525 was borrowed money. This amount has, however, been reduced to $8,879,835 by means of sinking fund accumulations. The present capital liability thus averages $60,000 per mile of single track. In comparing this liability with that of American cities some allowance has to be made for the differences in cost of labor and material in the two countries.

Comparative capital liabilities per track mile where the overhead trolley system is in general use:

	——Mileage——		Liabilities
City.	Electric.	Cable.	per mile.
Glasgow	*147.50	.....	$60,202
Chicago	826.82	91.70	109,537
Pittsburg	464.25	5.22	185,170
Boston	*451.68	.....	97,353
Philadelphia	517.53	.....	165,085
St. Louis	896.21	.....	198,647
Kansas City	148.24	33.00	119,506

*The average miles in operation during the year in Glasgow was 135. The Boston mileage includes 16.02 miles of elevated track which adds considerable to the average cost of construction.

The following statement explains the relatively low average liabilities per mile of track in Chicago:

Name of company:	Length of track.	Cable traction.	Liability per mile.
Chicago City Railway Co.	222.50	41.10	$80,899
Chicago Un Traction Co.	305.32	50.60	268,577
Chicago Con Traction Co.	206.51	.....	161,032
Sundry railway companies	183.19	.....	47,462

The system of publicity in accounting methods as adopted in Glasgow tends to keep down the capital liabilities, as the cost of all property owned is shown in detail. No item is included in the statement of assets at exaggerated values. Whatever is sold, destroyed or otherwise disposed of or becomes obsolete is written off. Thus the balance sheet is as approximately correct a statement of actual facts as can be prepared.

REVENUE ACCOUNT.

The following statement shows the general results of the operations of the Glasgow Tramways for the year ending May 31, 1904. The statement is framed so as to show the results for each 1,000 of inhabitants so that a comparison may be made with the average results obtained in all the cities of America having 500,000 or more inhabitants. Such a comparison cannot be absolutely accurate, but it is approximately so, the data being based on the report of the census bureau. To ascertain the gross figures for Glasgow add 000 to the figures stated:

CONDENSED REVENUE ACCOUNT.

	City of Glasgow.	American cities.
Operating earnings	$3,482	11,731
Operating expenses	2,238	6,534
Net earnings	$1,244	$5.197
Income from other sources	33	240
Earnings less operating exp...	$1,277	$5.437
Deductions from income	1,065	2,079
Taxes	169	779
Interest	801	2,181
Sinking fund	232	....
Special depreciation	801	....
Miscellaneous	62	19
Net income	$212	2,458
Dividends	121	2,034
Surplus	$91	$124

In the case of Glasgow, the dividends represent a cash payment to the city fund, known as the common good, while the surplus was transferred to a general reserve fund which is used for defraying extraordinary expenses on buildings, etc.

This statement develops very important differences between the operations as conducted in American cities and Glasgow. The most conspicuous of which is the relatively low earnings per capita in Glasgow. They average only $3.48 as compared with $11.73 in American cities. The Glasgow charge for taxes per capita averages $0.17 as compared with $0.78 and for interest and dividends $0.42 as compared with $4.12 in the American cities.

The ratio of the operating expenses to the operating earnings is for Glasgow 64.27% and for American cities 55.70%. The operating expenses of Glasgow, however, includes appropriations for renewals and depreciation aggregating 19.38%, exclusive of the special depreciation of 8.64% deducted from income. An analysis of the ex-

penses shows remarkable differences in various expenses. These are shown in the following statements:

Ratio of expenses to earnings:

Department of operating expenses.	City of Glasgow Depreciation Incl.	Am't.	Excl.	Amer. Cities Am't.
Ma. of way & struct...	16.52	12.39	4.13	4.25
Main. of equipment...	12.38	6.99	5.39	7.12
Op of power plant.....	2.83	....	2.83	7.97
Operation of cars.....	27.50	....	27.50	25.73
Gen. exp., incl. taxes..	5.04	....	5.04	10.63
Special depreciation ..	8.64	8.64	....	....
Total oper. expenses.	72.91	28.02	44.89	55.70
Taxes..	4.86	....	4.86	6.64

These percentages show that the management of the Glasgow tramways appreciates the necessity of making ample provision for renewals and depreciation. Their action in this respect is in striking contrast with that of almost every company operating street railways in America. The argument that a franchise increases in value in a ratio that more than offsets the depreciation is a very unsafe one for the stockholders of street railway companies to accept as an excuse for the failure to make such provisions. There may be some force in it where the franchise is exclusive and perpetual provided the taxes, including franchise taxes, are also restricted to a certain maximum percentage of earnings. In all cases where the franchise is for a limited period, the failure to make reasonable provision is absolutely and unjustifiable and certain to result in trouble to the stockholders, sooner or later, when borrowing powers are exhausted, as also to the citizens, for they will inevitably suffer from bad service. This subject is of such importance to all communities that the rtaes of depreciation charged in Glasgow are here stated in detail:

Depreciation.	Per cent. of cost.
Electrical equipment of lines	3.09
Buildings and fixtures	2.50
Power stations, etc., plant	5.00
Workshop tools	7.50
Cars	7.50
Electric equipment of cars	7.50
Miscellaneous equipment	5.81
Furniture	7.50

A permanent renewal fund is annually credited with $2,182.50 per mile of single track.

The permanent way renewal fund now has a balance at its credit of $936,079. During the year there was expended from this fund $22,393 in addition to the amount charged against earnings. Irrespective of the 12.39% set aside in renewal funds, the amount thus actually expended in Glasgow on repairs and renewals, was equal to 4.80% of the earnings as compared with 4.25% in the case of American cities. In the American cities no renewal funds were set aside.

It has further to be observed that, in addition to the depreciation charges, a special sinking fund of 2% of the amount borrowed, with 3% interest on accumulations, is annually set up. The accumulations in this fund should be sufficient to discharge the total indebtedness of the property in thirty-one years. Exception may, however, be taken to the fact that neither the depreciation and renewal funds nor the sinking fund is specially set aside in cash or high grade marketable securities, but that the funds so created are invested in extensions of the system. As the great object of renewal funds is to have the cash available when the renewals become desirable, the funds should be invested in readily realizable securities.

In the following statement a comparison is made between the ratio that the separate items bear to the total amount of the operating expenses in Glasgow and in America. So that the comparison may be the more effective, the large amounts charged for depreciation in the Glasgow accounts have been eliminated and the actual cash expenditures only shown. The American percentages are the averages of seventeen of the largest operating companies in America.

Percentage of total operating expenses assignable to:	City of Glasgow.	Cities of America
Maintenance of way and structure, total	10.52	8.1
Track and roadway	6.35	5.2
Electric, cable, etc., lines	1.97	2.2
Buildings and fixtures	2.20	.7
Maintenance of equipment, total	11.80	12.8
Steam and electric, etc., plant	1.67	1.7
Cars	5.82	6.2
Electric, cable, etc., equipment of cars	3.34	3.8
Miscellaneous equipment	.97	1.1
Operation of power plant, total	6.21	12.7
Power plant wages	2.57	2.7
Fuel for power	2.99	7.2
Water for power	.27	.5
Miscellaneous supplies and expense	.88	.4
Hired power	...	1.8
Operation of cars, total	60.39	47.3
Superintendence of transportation	1.38	2.4
Wages of conductors and motormen.	43.76	37.4
Wages of other car-service employes	3.14	2.1
Wages of car-house employes	5.50	2.2
Car service supplies	4.44	.9
Miscellaneous car-service expenses	1.24	1.3
Cleaning and sanding track	.93	1.0
Miscellaneous expenses, total	11.08	19.1
Salaries of general officers and clerks	1.89	2.5
Printing and stationery	.71	.3
Miscellaneous office expenses	.11	.4
Storeroom expenses	.25	.2
Miscellaneous general expenses	1.71	2.8
Damages and legal exp. in connection	5.09	10.1
Other legal expenses	.04	.7
Rents of land, buildings, etc.	.88	.9
Insurance	.40	1.2
	100.00	100.0

It is not the intention to enter here into a detailed criticism of the operating of the Glasgow tramways. Further, comparative figures of American companies are not available, the companies generally regarding them as private property to which the public are not entitled. To

one or two items, however, brief reference might be made. The most conspicuous difference in the two statements is perhaps in that of cost of power. The Glasgow reports show that the average cost per kilowatt hour is approximately 0.62 cents. This rate doubtless appears low to the managers of the surface roads of Chicago, whose cost of power is from 75 to 100% higher. However, there are not any insurmountable obstacles to producing power at even lower rates in Chicago, where coal is cheap. It is merely a matter of installing modern power houses and operating them economically. In the production of power the cost of labor is comparatively small. The large cost is for coal, and where coal is cheap the power should be cheap. Power should be produced in Chicago at a cost not exceeding 0.50 cents. Conspicuous difference is the percentage of damages and legal expenses in connection therewith. In Glasgow the tramway management avoid any excessive loss through accidents by insurance covering both the employers' liability and third party accident risks. In America it is usual for the companies to take the risks themselves and pay damages where liability attaches to them in the event of an accident.

The difference in the percentage of wages of conductors and motormen is largely due to the slower speed of the cars in Glasgow. The rate of wages per hour per man in Glasgow is less than in America, but the Glasgow man does not make as great mileage in any given time. The percentage is also affected to some extent by the higher general ratio of the total expenses in America, due to the higher cost of power and of damages.

WAIT FOR CHICAGO.

EDITORIAL COMMENT.

[From The Wall Street Journal of June 3, 1905.]

In order the better to carry out his policy of municipal ownership, Mayor Dunne of Chicago has brought to this country Mr. Dalrymple, superintendent of the municipal street railways of Glasgow, so as to have the benefit of his experience. The thorough analysis of the accounts of the Glasgow tramways by Mr. James Marwick, published in another column, presents the results of municipal ownership in that city in a most comprehensive way.

There can be no doubt whatever that Glasgow has achieved remarkable results under a system of municipal ownership and operation of street railways. The service to the public has been improved and the rates of fare reduced, and at the same time the system is operated at a profit to the city. As Mr. Marwick shows, the operation of the railways last year left a considerable dividend, which went to the city funds known as the "common good," and still a surplus remained, which went into a reserve for defraying extraordinary expenses.

These results, however, are by no means conclusive as to the policy of establishing municipal ownership in this country. We commend to all who are interested in this question Mr. Marwick's most painstaking and admirable paper. A careful reading of it, it seems to us, raises several doubts which can only be removed by actual experience.

First, there is the doubt as to the honesty and efficiency of municipal operation in view of the well known corruption and costliness of the administration of American cities. Until we have purified our municipal govern-

nents and divorced their administration from partisan and "ring" politics, the question is whether it is advisable to change from private ownership of public utilities, however great may be some of the evils connected therewith, to municipal ownership and operation.

Another doubt suggested by Mr. Marwick's paper is whether it would be advisable to adopt here the methods employed in Glasgow which permit of such large earnings on such low rates of fare. The Glasgow system of rates of fare graduated according to the distance travelled results in an enormous congestion of the population and increases the herding of the poor in the tenement house districts. The American system of fares, the same for long as for short distances, with manifold transfers, tends to distribute the population over wide areas. The latter from every point of view is the better.

Chicago has kindly undertaken the task of testing municipal ownership for the other American cities. Let New York and the other cities yield to Chicago that distinction, and meanwhile wait with patience the results of her experience.

MARWICK, MITCHELL & CO.

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